

PATENT SPECIFICATION



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COMPLETE SPECIFICATION.

Improvements in or relating to Hair-cutting Machines.

I, FRITZ KOBER, a German citizen, trading as the firm WILH. KOBER & Co., of Suhl, Thüringia, Germany, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to hair-cutting machines provided with means for obtaining two cutting heights by utilising the different thicknesses of the upper and the lower cutting combs.

The present invention consists in a hair-cutting machine having two cutting combs by means of which two different cutting heights can be obtained by exchanging the two combs one for the other without further auxiliary means.

The accompanying drawings illustrate the invention by way of example in two constructional forms.

Figure 1 shows the front elevation of a hinged clipper, in the direction of the arrow in Fig. 2.

Figure 2 a side elevation thereof, Figure 3 a view of the pivoting fork of the above machine,

Figure 4 a front elevation of a hair-cutting machine with changeable cutting head, in the direction of the arrow in Fig. 5,

Figure 5 a side elevation thereof, Figure 6 a view of the claws of the rear part of the head,

Figure 7 is a view showing the engaging positions of the claws and of the movable lever on the end face of the front removable part of the head.

The hand levers *a* and *b* according to Figure 1, with the working pegs *a*¹ and *b*¹ as well as the finger abutments *a*² and *b*², are capable of being secured alternately in opposite slots in the clipper-head casing, according as, for example, the lower cutting comb, 3 millimetres thick, or the upper cutting comb, ½ millimetre thick, is used as a base plate. The pivoting fork *c* (Fig. 3) is provided with a central round peg *c*³ which serves as a fulcrum for the superposed hand levers *a* and *b*. The two lateral angle pieces *c*¹, with screw-threaded holes *c*², by the aid

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of the two screw pins *d* according to Figure 1, carry the clipper head *e*. The same is rockable upon the screw pins *d*, as illustrated by Figure 2, and the slots *e*¹ and *e*² made in the clipper head casing, serve for the optional fixing of either of the lever working pegs *b*¹ or *a*¹. The levers *a* and *b* can be set with respect to the casing, either with the peg *b*¹ of the lever *b* lying in the slot *e*¹ of the casing so as to be fixed therein, while the peg *a*¹ of the lever *a* engages in a slot in the upper cutting comb *g*, and moves the latter to and fro, or with the peg *a*¹ lying in the slot *e*² of the casing so as to be fixed therein, while the peg *b*¹ engages in the slot in the cutting comb *g* and moves the latter to and fro. The upper cutting comb *g* has the usual slot which serves for the non-rotatable lateral movement upon the tooth or lug *e*⁴ of the clipper-head casing *e*. The clipper-head carries the two bolts *e*³ which project through slots *g*¹ in the upper cutting comb *g* and form corresponding stop surfaces for the limitation of the lateral movement of the upper cutting comb *g*. The movable cutting comb *g*, has, on the side projecting into the clipper head, two lugs *g*² the gap between which forms the slot *g*², in which engage the working pegs *a*¹ and *b*¹. The prolongation of this slot offers space for a pin (not shown) fitted into the clipper-head casing *e*, the free end of said pin serving as a bearing for the stationary lower cutting comb *f*. At the same time the bolts *e*³ fix the position of the lower thick cutting comb *f*, which is undisplaceably connected with the clipper-head casing *e* by the screw *i*, which passes through a slot *f*¹ in the comb *g*, by the aid of the rounded nut *k*, with the interposition of a plate spring. The superposed hand levers *a* and *b* are provided at the contact surfaces round the bolt *c*³ with recesses, into which the shank spring *h* is so inserted that the same pushes the hand levers back again into the normal position, which is limited by the bearing of the upper movable cutting comb *g* on the clipper-head casing bolt.

In the position of the hair-cutting machine shown in full lines in Figure 2

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the working peg b^1 of the hand lever b is in engagement with the slot e^1 in the clipper head and is consequently immovably connected with the clipper-head casing. At the same time the working peg a^1 of the lever a passes into the slot g^2 in the upper cutting comb g , so that the latter can execute the usual cutting movement when the lever is manipulated. In the position shown in broken lines in Figure 2 the working peg a^1 is in engagement with the slot e^2 in the clipper-head, so that in this position the thin cutting comb g serves as a bearing comb and the lever a is immovably connected with the clipper-head casing, since in rocking the clipper-head into this position the working peg a^1 leaves the slot in the upper cutting comb g and passes into the slot e^2 , and the lever working peg b^1 leaves the slot e^1 and enters the slot in the cutting comb g .

An essential feature of the constructional form shown in Figs. 1 and 2 is that by rocking the clipper-head either the upper cutting comb or the lower cutting comb serves as a bearing surface, and by this means two cutting heights are obtainable without difficulty with one machine. The same effect is obtained by means of the hair-cutting machine according to Figures 4 to 7, only here the exchange of the comb bearing surface is effected by transposing a casing, which in the usual manner carries the upper and lower cutting combs.

In Figure 4, l is the left-hand lever with the rectangular projections l^1 upon which the casing n is pushed and the pivot l^2 for the rotatable supporting of the right-hand lever m , while the bore l^3 serves for the reception of the known antagonistic spring, with a screw-threaded spring sleeve. l^4 is a closure plate with a hole bored for the pin screw l^5 for supporting the right-hand lever m , with working peg m^1 . The comb casing n is provided with two pegs n^1 and with the long rib n^2 for guiding the upper movable comb p . The thick lower cutting comb o is undisplaceably supported upon the pegs n^1 , and is rigidly connected with the comb casing by the screw n^3 with the nut n^4 . The upper cutting comb p has two projecting rectangular pegs p^1 , the gap between which forms a slot for the reception of the working peg m^1 of the right-hand lever m . At the same time this slot permits of the fitting of a pin (not shown) in the casing n , which serves as a bearing point for the stationary lower cutting comb o . The upper cutting comb moreover exhibits the usual recesses p^2 , one lateral surface of which serves as a stop or boundary.

The casing n forms, with the two cutting combs p and o , a coherent whole, which can be pulled off the rectangular projections l^1 of the left-hand lever l , which take into cavities n^5 in the casing n (see Fig. 7), and, after being turned round, can be pushed on again, so that either the thick lower cutting comb o or the thin upper movable cutting comb p serves as a bearing surface, and consequently renders possible different cutting heights.

While in the constructional form shown in Figures 1 to 3 the position of both the hand levers can be changed in the casing and both, according to their adjustment, are movable, in the constructional form shown in Figures 4 to 7 the hand levers l and m are permanently mounted in the rear part of the casing and only one of the two levers, namely the lever m is movable. In order to reverse the position of the two combs o and p the front part of the casing n which is pushed over the rectangular projections l^1 is withdrawn from these projections, turned round and again placed over them. In the new position the comb p will again be in engagement with the working peg m^1 of the lever m . Instead of turning round the entire casing n with the two cutting combs, only the cutting combs themselves can be reversed, the stationary cutting comb in this case being itself provided with the pegs n^1 , the screw n^3 and projections corresponding to the projections l^1 shown in Figure 6. In this case the casing n can be omitted as it is now superfluous, the left-hand lever not being provided with projections l^1 but being pushed over the projections on the stationary cutting comb. The two cutting combs are connected together by means of the screw n^3 (two of which may be provided) which is screwed into the stationary cutting comb so as to be incapable of turning and passes through the slot in the movable cutting comb, the two cutting combs being pressed together by means of the nut n^4 . The two cutting combs, held together by the screw n^3 and nut n^4 can be turned round and secured to the casing or left hand lever again. The working lug m^1 of the right-hand lever m can be made wide as shown, or the rectangular projections p^1 according to Figure 4 may be bent over in the direction away from the cutting surface, so that when the combs are rotated the working lug m^1 has a possibility of engagement in the movable comb p . In the case of this constructional form the fitting of the rib n^2 shown in Figure 5 may be omitted and the movable comb p guided on the guiding pins n^1 shown in Figure 4, which in

this case have enlarged portions against which the comb *p* rests. The clamp serves as a closure of the movable cutting comb, so that a smooth bearing surface is obtained.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A hair-cutting machine with movable and stationary cutting combs, characterised by the feature that by exchanging the two combs one for the other, two different cutting heights are obtained without further auxiliary means.

2. A hair-cutting machine according to Claim 1, characterised by the feature that the exchanging of the cutting combs is effected by rocking, substantially as described.

3. A hair-cutting machine, according to Claim 1, characterised by the feature that the exchanging of the cutting combs is effected by the bodily removal of the two combs and by replacing them after they have been turned round.

4. A hair-cutting machine according to Claim 1, characterised by the feature that by exchanging the combs or the comb casing the working lugs of the two hand levers can be alternately secured immovably to the comb casing, so that accord-

ing to the use of the upper or the lower cutting comb as a bearing surface the hand lever which is for the time being located on the left takes up an immovable position.

5. A hair-cutting machine according to Claims 1 and 2, characterised by the feature that the movable upper cutting comb and the immovable lower cutting comb are supported in a casing which is rockable about both hand levers by using a pivoting fork.

6. A hair-cutting machine with movable and stationary cutting combs, characterised by the feature that the two combs are mounted on a casing which is not secured to the machine and is capable of being readily pulled off and of being replaced in a reversed position, substantially as described.

7. A hair-cutting machine according to Claim 1, characterised by the feature that the two cutting combs held together by clamps or the like, after release of the connection with the left-hand lever head, are turned round and secured again.

8. A hair-cutting machine substantially as described in the foregoing Specification and as illustrated in the accompanying drawings.

Dated this 8th day of October, 1926.
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[This Drawing is a reproduction of the Original on a reduced scale.]

FIG. 1.

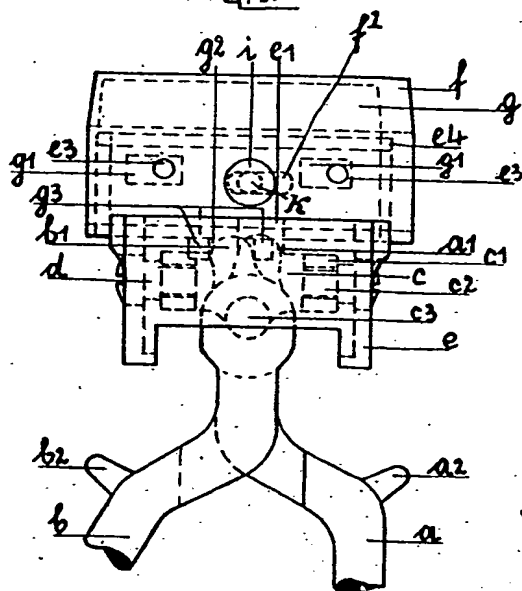


FIG. 2.

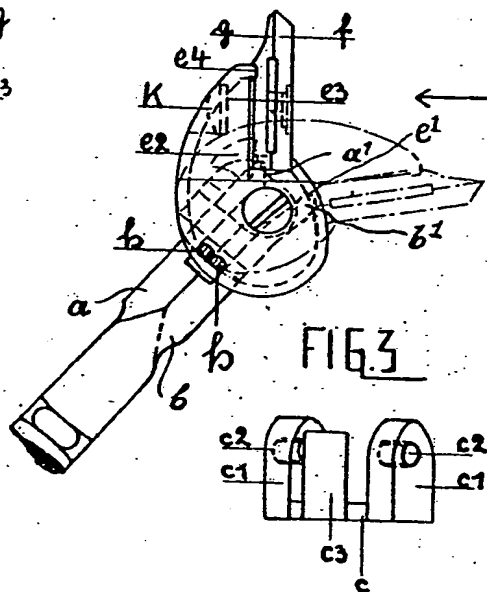


FIG. 3.

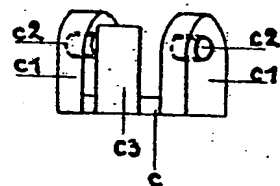


FIG. 4.

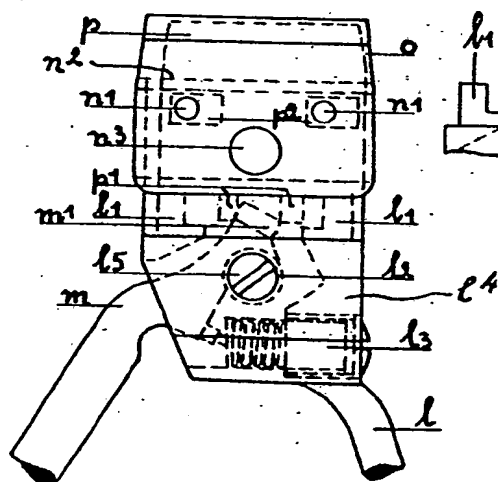


FIG. 5.

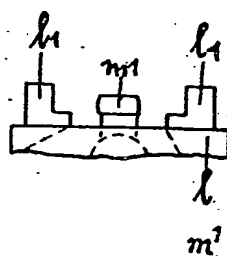


FIG. 6.

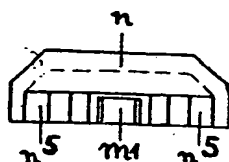
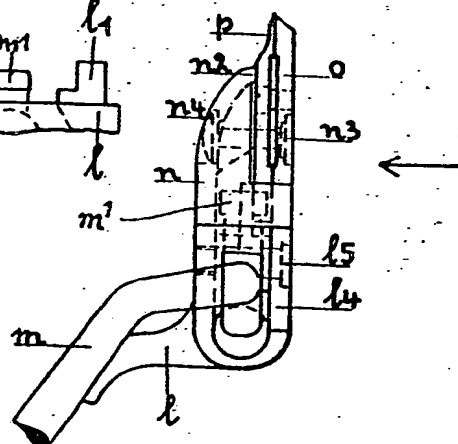


FIG. 7.

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